UNITED STATES PATENT AND TRADEMARK OFFICE
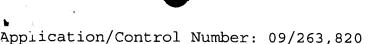
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/263,820	03/08/1999	SATORU CHIKUMA	826.1539/JDH	2271

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EXAMINER
ABELSON, RONALD B

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _10/14/03_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-29_ is/are pending in the application.

4a) Of the above claim(s) _27 128_ is/are withdrawn from consideration.

5)☒ Claim(s) _11,13 and 22_ is/are allowed.

6)☒ Claim(s) _1,2,5,6,12,14-17,19,22,23,25,26 and 29_ is/are rejected.

7)☒ Claim(s) _3,4,7-10,18,20,21 and 24_ is/are objected to.

8)☒ Claim(s) _27 and 28_ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _08 March 1999_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:
1.☒ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _10,11_ .

4) ☒ Interview Summary (PTO-413) Paper No(s). _12_ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35

U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and
> distinctly claiming the subject matter which the applicant regards as his invention.

2.   Claims 1 and 11 recite the limitation "the other apparatus"

in line 6.   Claim 14 recites the limitation "the other

apparatus" in line 6. Claim 16 recites the limitation "the other

apparatus" in line 12. Claim 22 recites the limitation "the

other apparatus" in line 13. There is insufficient antecedent

basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs

of 35 U.S.C. 102 that form the basis for the rejections under
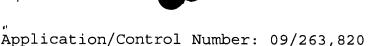
this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign
> country or in public use or on sale in this country, more than one year prior to the date
> of application for patent in the United States.

4.   Claim 1, 14, 16, and 22 are rejected under 35 U.S.C. 102(e)

as being anticipated by Rossmann (US 6,430,409).

Regarding claims 1, 14, 16, and 22, Rossmann teaches a

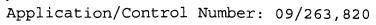method and apparatus for a transmission apparatus (fig. 12 box

500) for use in a radio communication system wherein the

transmission apparatus communicates with a reception apparatus

(fig. 12 box 700) through a radio channel (fig 12 box 710).

The system comprises a monitoring means for monitoring

whether a transmission request for data, designating the

transmission apparatus itself as a transmission destination

(fig. 12 box 1201, col. 37 lines 26-28), has been issued by said

transmission apparatus or the other apparatus connected thereto

through a network (fig. 12 box 700). Note, the in the system of

Rossmann, the reception apparatus and other apparatus are the

same.

The system comprises a generation means for generating and

initiating a process (spawns an ANT request processor, col. 37

lines 28-31) in the transmission apparatus to serve as a logical

reception destination for the data and generating a buffer

(buffer associated with fig. 12 box 1204, note data is stored in

box 1210) in correspondence with the process, when said

monitoring means has detected the issue of the transmission

request. Note, a process is a "routine" or "thread" (spec: pg 12

lines 6-7).

The system comprises a transfer means for transferring the

data from a transmission request source to said process in

accordance with communications of an interval virtual circuit

type (virtual connection, TCP, col. 26 lines 31-36). Note,
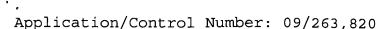
virtual connections are used in TCP.

The system comprises a transmission means for transmitting

the data stored in said buffer, to said other apparatus through

the radio channel (col. 39 lines 38-39).

5.   Regarding claims 12, 15, 23, and 29, Rossmann teaches a

reception apparatus (fig. 12 box 500) for use in a radio

communication system wherein the reception apparatus

communicates with a transmission apparatus (fig. 12 box 700)

through a radio channel (fig. 12 box 710 see connections).

The system comprises a reception means for receiving data

sent in through the radio channel (fig. 12 box 1202).

The system comprises a monitoring means for monitoring

whether or not said reception means has received data which

conforms to a protocol associated with layers of said radio

channel (fig. 12 box 1201, col. 37 lines 26-28).

The system comprises a generation means for generating and

initiating a process in the reception apparatus to serve as a

logical reception destination for the data, when said monitoring

means has detected the reception of the pertinent data (fig. 12

box 1204, col. 37 lines 28-35).

The system comprises a transfer means for transferring the
data received by the process (fig. 12 box 1204), to a
transmission request destination (fig. 12 box 1210) in
accordance with communications of an interval virtual circuit
type (virtual connection, TCP, col. 26 lines 31-36). Note, as
shown in the passage above, virtual connections are used in TCP.

Regarding claim 29, in addition to the limitations
previously listed, transmitting the data along with a port
number and an IP address (col. 37 lines 65-66) of a target
service (fig. 12 Network Servers) through the radio channel.
Regarding a port number, this is inherent in the system. If this
were not the case, the system would not know which output port
to send the data.

Claim Rejections   - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which
forms the basis for all obviousness rejections set forth in this
Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject matter
> as a whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which said subject matter pertains. Patentability shall not
> be negatived by the manner in which the invention was made.

7.   Claim 2 and 17 rejected under 35 U.S.C. 103(a) as being

unpatentable over Rossmann as applied to claims 1 and 16 above,

and further in view of Bakre (IEEE Transactions on Computers,

Vol. 46, 3 March 1997).

Rossmann fails to teach employing a protocol of an upper

layer with respect to layers of the radio channel.

Bakre teaches employing a protocol of an upper layer with

respect to layers of the radio channel (I-TCP, section 4.1).

Therefore it would have been obvious to one of ordinary

skill in the art, having both Rossmann and Bakre before him/her

and with the teachings [a] as shown by Rossmann, a wireless

communication network, and [b] as shown by Bakre, employing a

protocol of an upper layer with respect to layers of the radio

channel, to be motivated to modify the system of Rossmann by

communicating over the radio channel (fig. 12 box 710) using I-

TCP as opposed to TCP. Adhering to the I-TCP protocol standards

can perform this. This would improve the system since I-TCP is

better suited for the wireless link than conventional TCP

(Bakre: section 4.1).

8.   Claim 5, 6, and 19 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Rossmann as applied to claims 1 and 16

above, and further in view of Waters.

Rossmann is silent on restarting the transmission after disconnection.

Waters teaches specifying a sequence number at the point of time of the disconnection and restarting the transmission at the sequence number specified, when said radio channel has been reconnected (restart, reinitialization, col. 22 lines 15-17). Note, the examiner maintains that a sequence number must be reported so the system knows where to restart.

Therefore it would have been obvious to one of ordinary skill in the art, having both Rossmann and Waters before him/her and with the teachings [a] as shown by Rossmann, a wireless communication network, and [b] as shown by Waters, specifying a sequence number at the point of time of the disconnection and restarting the transmission at the sequence number specified, when said radio channel has been reconnected, to be motivated to modify the system of Rossmann by recording the packet sequence number at the time of disconnection. This modification can be performed in software. This would improve the system of Rossmann by allowing the system to retransmit from the point of disconnection as opposed to having the system retransmit from the beginning.

9.   Claims 25-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bakre (IEEE Transactions on Computers, Vol.

46, 3 March 1997) in view of Dasgupta (US 5,699,500).

Regarding claims 25-26, Bakre teaches a method and

apparatus for transmitting data request by a transmission source

(fig. 4 MH) employing a protocol of an upper layer with respect

to layers of the radio channel (I-TCP, section 4.1),

transmitting the data transmitted (fig. 4 MH) by employing the

protocol of an upper layer, through said radio channel by

employing a protocol of the layers of said radio channel (I-TCP,

section 4.1), and transmitting the data transmitted by employing

said protocol of said layers of said radio channel, to a

transmission request destination (fig. 4 FH) by employing said

protocol of said upper layer with respect to said layers of said

radio channel (I-TCP, section 4.1).

Although Bakre teaches I-TCP daemon processes supporting I-

TCP connections (pg. 264 section 5 last sentence) the reference

is silent on transmitting in accordance with a virtual circuit

type.

Dasgupta teaches virtual circuit connections to a daemon

process (col. 6 lines 53-56).

Therefore it would have been obvious to one of ordinary

skill in the art, having both Bakre and Dasgupta before him/her

and with the teachings [a] as shown by Bakre, transmitting data

request by a transmission source employing a protocol of an

upper layer with respect to layers of the radio channel, and [b]

as shown by Dasgupta, virtual circuit connections to a daemon

process, to be motivated to modify the system of Bakre by

maintaining virtual circuit connections to the daemon processes

of Bakre. Following the standards for virtual circuit

connections to daemon processes can perform this modification.

This would improve the system since virtual circuit need not be

maintained if they are not in use.

Regarding claim 26, in addition to the limitations

previously listed, the examiner corresponds the first

communication means with the transmitter in the MH of Bakre

(fig. 4), the first communication means to be XTP (Bakre pg. 137

column 1 section 2.2 last paragraph) and the second radio

communication means to be XTP. Note the applicant does not state

that the second radio communication means is different from the

first. In addition, the examiner equates the second

communication of the applicant to the receiver of the FH of

Bakre (fig. 4) and the transmission request destination of the

applicant with a MH that is in communication with the first MH

(fig. 4).

Allowable Subject Matter

10.   Claims 11, 13, and 22 are allowed.

11.   Claims 3, 4, 7-10, 18, 20, 21, and 24 are objected to as

being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

12.   The following is a statement of reasons for the indication

of allowable subject matter.

Regarding claims 11 and 22, Rossmann teaches a method and

apparatus for a transmission apparatus (fig. 12 box 500) for use

in a radio communication system wherein the transmission

apparatus communicates with a reception apparatus (fig. 12 box

700) through a radio channel (fig 12 box 710).

The system comprises a monitoring means for monitoring

whether a transmission request for data, designating the

transmission apparatus itself as a transmission destination

(fig. 12 box 1201, col. 37 lines 26-28), has been issued by said

transmission apparatus or the other apparatus connected thereto

through a network (fig. 12 box 700). Note, the in the system of

Rossmann, the reception apparatus and other apparatus are the

same.

The system comprises a generation means for generating and
initiating a process (spawns an ANT request processor, col. 37
lines 28-31) in the transmission apparatus to serve as a logical
reception destination for the data and generating a buffer
(buffer associated with fig. 12 box 1204, note data is stored in
box 1210) in correspondence with the process, when said
monitoring means has detected the issue of the transmission
request. Note, a process is a "routine" or "thread" (spec: pg 12
lines 6-7).

The system comprises a transfer means for transferring the
data from a transmission request source to said process in
accordance with communications of an interval virtual circuit
type (virtual connection, TCP, col. 26 lines 31-36). Note,
virtual connections are used in TCP.

The system comprises a transmission means for transmitting
the data stored in said buffer, to said other apparatus through
the radio channel (col. 39 lines 38-39).

Although Rossmann teaches a cache memory (fig. 12 box 716),
nothing in the prior art of the record teaches or fairly
suggests a search means for searching as to whether or not data
requested by said transmission request source is registered in
said cache memory, in combination with all the other limitations
listed in the claim.

Regarding claims 13 and 24, Rossmann teaches a reception apparatus (fig. 12 box 500) for use in a radio communication system wherein the reception apparatus communicates with a transmission apparatus (fig. 12 box 700) through a radio channel (fig. 12 box 710 see connections).

The system comprises a reception means for receiving data sent in through the radio channel (fig. 12 box 1202).

The system comprises a monitoring means for monitoring whether or not said reception means has received data which conforms to a protocol associated with layers of said radio channel (fig. 12 box 1201, col. 37 lines 26-28).

The system comprises a generation means for generating and initiating a process in the reception apparatus to serve as a logical reception destination for the data, when said monitoring means has detected the reception of the pertinent data (fig. 12 box 1204, col. 37 lines 28-35).

The system comprises a transfer means for transferring the data received by the process (fig. 12 box 1204), to a transmission request destination (fig. 12 box 1210) in accordance with communications of an interval virtual circuit type (virtual connection, TCP, col. 26 lines 31-36). Note, as shown in the passage above, virtual connections are used in TCP.
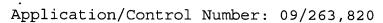
Although Rossmann teaches a cache memory (fig. 12 box 716), nothing in the prior art of the record teaches or fairly suggests a search means for searching as to whether or not data requested by said transmission request source is registered in said cache memory, in combination with all the other limitations listed in the claim.

Regarding claims 3, 4, and 18 although Rossmann teaches the limitations of claims 1 and 16 wherein virtual circuits are taught, nothing in the prior art of the record teaches or fairly suggests the communication speed of the virtual circuit is controlled (spec: pg. 26 lines 15-21, note the buffer is a virtual buffer and the connection to the buffer is a virtual connection).

Regarding claims 9, 10, 20, and 21, in addition to the limitations previously mentioned, Rossmann teaches a plurality of buffers (fig. 2 box 1211-1213), however nothing in the prior art of the record teaches or fairly suggests prioritization of these buffers.

Response to Arguments

13. Applicant's arguments with respect to claims 1, 11-16, 22, 23, 26, and 29 have been considered but are moot in view of the new ground(s) of rejection. The examiner agrees with the applicant that Kobayashi does not teach generating or spawning (applicant: pg. 12 5th paragraph). Therefore, a new search was performed.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald Abelson
Examiner
Art Unit 2666

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